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NANO-STRUCTURE AND MANUFACTURE THEREOF, ELECTRON EMISSION ELEMENT AND MANUFACTURE OF CARBON NANO-TUBE DEVICE

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## **ABSTRACT**

PROBLEM TO BE SOLVED: To provide a nano-structural body which comprises an anodic oxidation coating having through nano-holes of superior uniformity in the shape on a substrate, including at least one selected from among semiconductor, precious metal, and carbon.

SOLUTION: A nano-structure comprises an anodic oxidation coating 13, having nano-holes 14 on a substrate 11 which has a surface including at least one selected from among semiconductor, precious metal, and carbon. The nano-hole 14 passes through from the surface of the anodic oxidation coating 13 to the surface of the substrate 11 and has a first diameter at the surface of the anodic oxidation coating 13 and a second diameter at the surface of the substrate 11, and furthermore has a portion 16 of which the diameter is smaller than that of the first and second diameter between from the surface of the anodic oxidation coating 13 to the surface of the substrate 11, or the second diameter is made larger than the first diameter.